

10/516616

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



Rec'd PCT/PTO 03 DEC 2004



(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 2003/101948 A3

(51) International Patent Classification⁷: C07C 311/42,
323/58, 323/25, A61K 49/06, 51/04

(21) International Application Number:
PCT/IL2003/000463

(22) International Filing Date: 3 June 2003 (03.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
150016 4 June 2002 (04.06.2002) IL
152631 4 November 2002 (04.11.2002) IL
153183 28 November 2002 (28.11.2002) IL

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): NST
NEUROSURVIVAL TECHNOLOGIES LTD. [IL/IL];
5-7 Odem Street, Kiryat Matalon, 49170 Petah-Tikva (IL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ZIV, Ilan [IL/IL];
5 Shezaf Street, 44418 Kfar Saba (IL). SHIRVAN, Anat
[IL/IL]; 3 Habsor Street, 46328 Herzliya (IL). EBNER,
Sharon [IL/IL]; 17 Bialik Street, 43609 Raanana (IL).

(74) Agent: REINHOLD COHN AND PARTNERS; P.O.B.
4060, 61040 Tel Aviv (IL).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
29 January 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AGENTS FOR IMAGING AND DIAGNOSTIC METHODS USING THEM

(57) Abstract: The present invention provides novel compounds that bind selectively to cells undergoing perturbations and alterations of the normal organization of their plasma membrane, while binding to a lesser degree to cells having membranes of normal organization, and their uses as diagnostic probes. Said compounds and methods used therein may be useful in medical practice, for applications such as diagnosis of disease and monitoring of response to therapy.

WO 2003/101948 A3

INTERNATIONAL SEARCH REPORT

 Internatio application No
 PCT/IL 03/00463

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C311/42 C07C323/58 C07C323/25 A61K49/06 A61K51/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 451 824 A (NIHON MEDI-PHYSICS CO LTD) 16 October 1991 (1991-10-16) the whole document	1-3,6,7, 11, 22-25, 29,30, 32,33, 43-48, 54,58, 65,66, 69,70,79
A	J. MED. CHEM.: E. CHIOTELLIS ET AL, vol. 25, no. 11, 1982, pages 1370-1374, XP002260808 tables I-II, compound 4 ----- -/--	1-3,7-9, 11,21, 24,25, 29,30

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

14 November 2003

Date of mailing of the international search report

03/12/2003

Name and mailing address of the ISA

 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Van Amsterdam, L

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/IL 02/00463

C.(Continuation) DOCUMENTS CONSIDERED RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PROC. NATL. ACAD. SCI. USA, vol. 75, no. 8, 1978, pages 3683-3687, XP0008017965 page 3683, column 2, line 25 - page 3684, column 1, line 53 -----	1, 26, 29, 31
P, X	WO 02 46147 A (NST NEUROSURVIVAL TECHNOLOGIES LTD) 13 June 2002 (2002-06-13) claims 1-7, 9-11, 13-17, 19-27, 29-37, 41-57 -----	1-3, 6-9, 11, 22-26, 29, 30, 32-36, 43-46, 48-61, 64-83
P, X	WO 02 074346 A (NST NEUROSURVIVAL LTD) 26 September 2002 (2002-09-26) page 7, line 25 - page 8, line 7; claims 1-11, 34, 37-41, 43-52, 63, 66, 69, 72-76 -----	1-4, 6-9, 11, 22-26, 29, 30, 32-36, 43-46, 48-55, 64-77

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL 03/00463

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 65-83 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 5
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 5

Present claim 1 relates to an extremely large number of possible compounds. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claim which appear to be supported and disclosed, namely those parts relating to the compounds of formula I, wherein G and Z are as defined in claim 1 and the moiety D-Y- is an amino-substituted naphthalene group as illustrated and defined in claim 11.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IL 83/00463

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0451824	A	16-10-1991	JP	2776953 B2		16-07-1998
			JP	3291260 A		20-12-1991
			AT	134190 T		15-02-1996
			AU	634645 B2		25-02-1993
			AU	7428191 A		17-10-1991
			CA	2040204 A1		11-10-1991
			DE	69117084 D1		28-03-1996
			DE	69117084 T2		02-10-1996
			DK	451824 T3		11-03-1996
			EP	0451824 A2		16-10-1991
			ES	2085924 T3		16-06-1996
			KR	189388 B1		01-06-1999
			US	5196576 A		23-03-1993
			US	5138039 A		11-08-1992
			US	5274082 A		28-12-1993
WO 0246147	A	13-06-2002	AU	1843102 A		18-06-2002
			CA	2436601 A1		13-06-2002
			WO	0246147 A2		13-06-2002
WO 02074346	A	26-09-2002	WO	02074346 A2		26-09-2002